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EFFECTS OF POLLUTION ON AQUATIC FAUNA. THE
EXAMPLE OF AQUATIC INSECTS IN RIVER AVE.

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(Summary of the article which was published
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Portuguese)

This article is addressed mainly to non-
specialists, principally foresters of the
Ministry of Agriculture. In fact, freshwater
fisheries are in large part under the
supervision of this department. The first
sections deal with general ecological
principles especially with the relationships
between water quality and aquatic invertebr-
ates, in particular insects.

In the last section a particular topic
concerning the capture of caddisflies with a
light trap on the bank of the River Ave in
Vila do Conde is analysed (for more details
on the collecting method and site charact-
eristics see Terra, 1977: "First results of
Trichoptera collecting with light traps at
Vila do Conde (Portugal)", Proc.of the 2nd
Int.Symp.on Trichoptera, pp. 75-82.). The
analysis is based on total annual captures of
individuals and species and covers a period
of seven consecutive years (1976-1982) with a
supplementary year (1986) (see table).

Captures of adult caddisflies with a light
trap at Vila do Conde (River Ave):

Years	Total annual captures	
	Individuals	Species
1976	3727	21
1977	3049	19
1978	3323	23
1979	3314	25
1980	3921	19
1981	2370	21
1982	1324	15
1986	321	15

The fall in captures is obviously due to
pollution and has accelerated since 1981.
These numbers were low at the beginning
because the river had been polluted for a
long time by textile industries wastes,
mostly untreated, but there was a fair degree
of self-purification of the water, and the
light trap was some kilometres downstream
from the main pollution sources. Since the
pollution has increased and a new source
appeared close to the trap the effects have
also increased.

In 1986 there were still 15 species
present but only four were responsible for
93% of the total catches. They were Tinodes
assimilis McL. (123♂,80♀), Hydropsyche
lobata McL. (23♂,24♀), Ceraclea
sobradieli Navás (10♂,21♀), and Tinodes
waeneri L. (13♂,5♀). The single species,
T.assimilis, accounted for 63% of the total
catch.

Already before 1981 a few species had
disappeared, e.g. Psychomyia
ctenophora McL. which was relatively
common between 1976 and 1979, with large
numbers captured in 1978 (124♂,62♀). This
species was not found after 1979. Other
species were rare and appeared only in the
first years of collecting, such as the
limnephilids, Grammotaulius
submaculatus Ramb., Halesus
radiatus Curtis, Micropterna
fissa McL., and Mesophylax
aspersus Ramb. On the other hand two
other limnephilids, Limnephilus
guadarramicus Schmid and Limnephilus
marmoratus Curtis, were present in all
collecting years even in 1986, though with
in smaller numbers as with the other
species. Among the other common species
in the period of collection can be
included Rhyacophila
munda McL., Polycentropus
telifier McL., Ecnomus
deceptor McL. and Mystacides
azurea L. which were still present
in the 1986 collection in small numbers.

